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ABSTRACT

The Texas Environmental Adaptation Measure (TEAM), a four-part instrument, is designed to assess children's adaptive behavior as it relates to their sociocultural and emotional environments. TEAM is intended to determine the eligibility of these children for special education classes and to provide information for individualizing their instruction. TEAM is comprised of four parts: (1) two measures of children's social-emotional environment; (2) one personality measure; and (3) one measure of children's adaptive behavior. TEAM is administered as a one-hour home interview. The social environment measures are composed of sociocultural history and family dynamics sections. Six areas are investigated in the adaptive behavior section: autonomous activities, mechanical skills, play and recreation, communication and social skills, responsibility, and economic activity. The Adaptive Behavior Assessment of TEAM has been standardized on a random sample of 545 students from Corpus Christi, Texas. The sample represents males and females; ages 5 through 16; three ethnic/racial groups; and high and low socioeconomic status. (MH)

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Texas Environmental Adaptation Measure: Adaptive Behavior
in Sociocultural, Emotional Environments¹

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Texas Environmental Adaptation Measure: Adaptive Behavior
in Sociocultural, Emotional Environments¹

For the past two years the Pluralistic Diagnostic Team in Corpus Christi, Texas, has used measures of adaptive behavior in the determination of the eligibility of students for special education classes, while researching both the instruments and their conceptual bases. The result has been the development of the Texas Environmental Adaptation Measure (TEAM).

Although highly indebted to Mercer and Lewis's (1977) Adaptive Behavior Inventory for Children (ABIC) and to the American Association on Mental Deficiency's Adaptive Behavior Scale-Public School Version (Lambert, 1975), TEAM was designed to overcome their inadequacies in the classification of children as mentally retarded and to provide information to be used in the development of individualized educational plans for these children. Impetus for the development of TEAM came with the realization that neither the popular conceptualization of adaptive behavior nor the instruments available for its measurement were adequate for use in making classification decisions or in educational planning. The available instruments either measured behaviors that were extremely low-level or provided numerical results which proved meaningless in the determination of what a child could or could not do (Mastenbrook, 1977; Hernandez, 1978).

Problems with the popular conceptualization of adaptive behavior are centered in a failure to take into account personality and motivational

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factors and the uniqueness of the particular environments to which children must adapt (Mastenbrook, 1977). The concept of "adaptive fit" developed by Jane Mercer (1977) envisions the adaptation of a child as the ability to gain entry into an increasing number of social systems--family, school, peers, community, etc. However, as Mastenbrook (1977) has pointed out, this results in a quantitative rather than qualitative construct in which little or no weight is given to psychological factors. The definition of adaptive behavior accepted by the American Association on Mental Deficiency, the degree to which the individual is able to maintain himself independently and satisfactorily meet the culturally-imposed demands of personal and social responsibility (Grossman, 1973), refers to "culturally-imposed" demands, but does not emphasize how diverse these cultures may be.

In an attempt to increase the viability of adaptive behavior as a usable concept, the PDT has developed a construct of adaptive behavior which incorporates both personality and motivational factors as well as the uniqueness of individual environments. This construct of adaptive behavior takes into account the following factors:

- 1) the physical and social environmental demands, expectations, and values of the particular person's environment
- 2) the personality characteristics and motivations of the person which influence how his/her skills are manifested in particular adaptive behaviors and
- 3) how the person has adapted to his/her environmental demands and expectations (Mastenbrook, 1977).

The Texas Environmental Adaptation Measure (TEAM) operationalizes this construct of adaptive behavior.

DESCRIPTION OF THE INSTRUMENT

TEAM is based upon the assumption that analysis of the individual child's environment and personality is prerequisite to the assessment of his/her adaptive behavior. It is a four-part measure consisting of two measures of a child's social-emotional environment, one personality measure, and a measure of the child's adaptive behavior. It has been designed in such a way that information from each section complements that of the others; information from the first three sections provides the background necessary for accurate interpretation of adaptive behavior results.

Although TEAM is designed to be administered in its entirety, it is so constructed that the adaptive behavior section, the only part which provides a numerical score, can be given separately or in conjunction with any or all of the other measures. TEAM has been developed as a home interview, using the parent, guardian, or other person familiar with the child and the home, as respondent. Administration time is approximately one hour.

Environmental Measures

The environmental measures included in TEAM are the Sociocultural History and Family Dynamics sections.

Sociocultural History

The Sociocultural History section of TEAM provides a look at the cultural background and social environment of the child. More comprehensive than Mercer & Lewis's Sociocultural Modalities, the Sociocultural History parallels a brief intake on caseworker interview. It covers information in

seven areas: 1) family background (age, marital status, race of parents, age and sex of siblings, number of people living in the home, etc.); 2) educational background (educational level of parents and siblings, problems in school); 3) medical background (chronic or recurrent health problems that interfere with family activities); 4) economic information (occupations of parents, principal source of income, etc.); 5) housing (type of residence, description of home, availability of telephone, automobile); 6) description of neighborhood (income level, access to shopping, business, school, relationship with neighbors, make-up of neighborhood); 7) child care (person or agency responsible for children during the day and at night).

The Sociocultural History provides, not only necessary demographic information, but also delineates factors which may possibly contribute to a child's problem and/or to the remediation of that problem. For instance, it is not unusual to discover that a child shares a bedroom with five others in a small home in a low socioeconomic area with little access to shopping or recreation areas--factors which may influence study habits, motivation, and opportunity to learn social skills.

Family Dynamics

The Family Dynamics section of TEAM is aimed at determining the structure and expressiveness of the family, the expectations the parent has of the child, opportunities provided the child, and the school orientation of the family. Questions are designed to discover the types of punishment and/or discipline used in the family, the family member who carries out punishment and makes major family decisions, and how much emotional ex-

pression is tolerated within the family. Questions also focus on opportunities and/or restrictions given the child concerning play areas, chores, and use of money. The school orientation section provides information concerning the language used most often in the home, types of toys and reading materials available, how often the child has homework, whether or not someone helps the child with homework, and the style of problem-solving typically used by the child.

Information from the Family Dynamics section provides a measure of the child's opportunities to engage in the adaptive behaviors normally associated with his/her age group. A low score on the adaptive behavior assessment may be explained from the Family Dynamics section by information that the child is not allowed to play outside the yard or to make independent purchases. Poor academic achievement may be better understood with knowledge that only Spanish is spoken in the home, that the child receives no help with homework, or that the parents have relatively low educational expectations for the child. Information from this section of TEAM may also provide ideas for educational planning--group activities for a group-oriented child, one-to-one teaching for a child who prefers that method, involving parents in teaching activities, etc.

Personality Adjustment

The Personality Adjustment section of TEAM was designed to reveal emotional and motivational aspects of a child's functioning. Questions concern developmental aspects--pre/post-natal problems, unusual, rapid, or delayed speech and/or locomotion, changes in rate of development, problems

with toilet training, temper tantrums, etc. Information is gathered concerning the child's typical response to discipline and frustration--sulking, crying, anger, anxiety, acting-out, etc. The child's usual mode of interaction with peers, siblings, teachers, parents, etc. is also investigated. Information is also provided about recent trauma (accident, illness, death in the family, divorce, separation, etc.) and school adjustment (frequent absences, early morning illness, fear and/or dislike of school or classmates, etc.).

This section of TEAM provides information which can be useful in understanding poor school achievement and/or maladaptive behaviors which may be interfering with a child's functioning. The development of plans for remediation may also result. For example, the discovery of a severe change in rate of development at an early age may signal the need for a more thorough medical evaluation. A parent's portrait of a child as typically withdrawn in the face of discipline or frustration and emotionally passive and shy with peers and teachers may provide an explanation for the child's failure to achieve or to adjust to school. Responses to the Personality Adjustment section may also help explain why a child does or does not engage in certain adaptive behaviors.

Adaptive Behavior Assessment

The Adaptive Behavior Assessment of TEAM shows both similarities and differences when compared to currently available adaptive behavior instruments. We are indebted to the authors of the ABIC, the AAMD ABS-PSV and the Vineland for many suggestions for possible questions. Questions

are also written in a format similar to that of the ABIC--multiple choice with three possible responses: null or minimal performance, intermediate or performed with assistance, and maximal or independent performance. However, the similarities of construction stop there. The adaptive behavior section of TEAM has a total of 102 questions, as opposed to the 66 of the ABS-PSV and the 242 of the ABIC. This section of the TEAM was designed in such a manner that an examiner may ask every question in about 20 minutes, a short period of time when compared to the 45-60 minute administration time of the ABIC. Scoring is simpler than that of any of the aforementioned scales and can be completed in about five minutes.

The Adaptive Behavior Assessment of TEAM also differs from currently used instruments in that it focuses on a wider range of behaviors than does the ABS-PSV and, unlike the ABIC with its middle-class orientation, it provides a look at what a child can actually do, rather than a look at what his school, economic condition, and community offer. The Adaptive Behavior Assessment has also been designed for use in a conversational manner, without adherence to the dictum of verbatim questioning used by Mercer. Another major difference between the new instrument and others is that it includes questions appropriate for the 12-16 year age group.

The Adaptive Behavior Assessment contained in the Texas Environmental Adaptation Measure (TEAM) investigates activities in six areas: autonomous activities, mechanical skills, play and recreation, communication and social skills, responsibility and economic activity.

A community activities subscale was initially included. However, since social, civic, and community activities appear solely dependent upon

environmental opportunity, their inclusion in a normed measure of adaptive behavior has been reconsidered. These activities will be placed within the context of the Family Dynamics or Sociocultural History sections of TEAM.

The Autonomous Activities subscale consists of 26 questions concerning independent self-help activities. Among these are personal hygiene activities such as bathing, hair washing, dressing, caring for fingernails and independent toilet activities. Questions also concern feeding activities: using utensils, pouring, using bottle opener, preparing sandwiches, cooking, baking and washing dishes. Household cleaning activities such as clothes washing, housecleaning, and yard work are also areas of inquiry in the autonomous activities subscale.

The Mechanical Skills subscale focuses upon simple to complex items in 16 questions. Among these are simple activities such as operating the television, turning light switches on and off, unplugging electrical appliances, and changing light bulbs and batteries. More complex activities include using power tools, repairing appliances, using a sewing machine and driving and maintaining an automobile or motorcycle.

Age-appropriate games and play activities and independent recreational activities are the major areas of inquiry in the Play and Recreation subscale. Typical children's play activities include "pretend" games such as "house", "school", imaginary characters, emulation of TV heroes. Also included are outside activities such as tag, chase, hide-and-seek, bike-riding, sports activities, and camping. Table games, crafts, and puzzles are also mentioned in the play and recreation subscale. The 16 questions in this subscale were

designed to determine, not only the types of activities in which the child engages, but also the degree of complexity and the independence required in these activities.

The 21 questions of the Communication and Social Skills subscale range from minimal abilities to communicate with others to social awareness and interaction skills. Complexity of the language used by the child, knowledge of parents' occupations, telephone numbers, etc. are areas of inquiry. Questions also concern perception of the social environment, interaction with friends and/or members of the opposite sex, participation in organizations, and arrangement of social affairs.

The Responsibility subscale concerns the child's ability to care for himself/herself and others and to fulfill his/her obligations. The 14 questions focus on independent locomotion, ranging from simple negotiation of the unsupervised trip from house to yard, to independent trips to school or bus stop, to the grocery store, or the movies. Determination is made of how long the child is left alone at home, his/her use of public transportation, care of pets and elderly people, and the ability to handle emergency situations. Focus is also placed on the child's responsibility for his/her own activities: owning mistakes, doing homework and household chores without prodding, arriving on time, keeping promises, and fulfilling obligations.

The Economic Activity subscale consists of nine questions about the child's use of money. Questions concern how the child gets money (from a job, allowance, etc.) and what he/she does with it (buys candy, toys, records, pays for entertainment). Inquiry is also made into the child's ability to make change, run errands, and use banking facilities.

STANDARDIZATION OF THE INSTRUMENT

The Adaptive Behavior Assessment of the Texas Environmental Adaptation Measure has been standardized on a sample of children from the Corpus Christi Independent School District, Corpus Christi, Texas. (Analysis of the data from the Sociocultural History, Family Dynamics, and Personality Adjustment sections is currently in progress; these results will be reported at a later date.)

Description of Sampling Area

Corpus Christi is a city of approximately 215,000 persons (1970 census), located on Corpus Christi Bay on the South Texas coastline, 210 miles southwest of Houston. "Blue collar" industries (petrochemical plants and oil refineries), agriculture, and fishing provide most of the employment in the Corpus Christi area. Corpus Christi is basically a low-income area whose population, according to the 1970 census, is 40.6% Mexican-American, 5.1% Black, and 54.3% Anglo. According to recent figures, however, the ethnic make-up of the students in the Corpus Christi Independent School District (CCISD) is 52% Mexican-American, 6% Black, and 32% Anglo.

Method

Research Design

In order to determine the need for separate norms in the standardization of TEAM, the sample was stratified according to age (by year), ethnicity (Black, Mexican-American, Anglo) and low or high socioeconomic status (SES), based on qualification or non-qualification for the CCISD free lunch program.

Subjects

Using a table of random numbers, 545 students, ages 5-16, were chosen from the total population of students enrolled in the CCISD during the 1977-78 school year. For age groups 5-11 (inclusive), 420 children were selected in equal numbers from the three ethnic groups. Equal numbers of females and males and low and high SES students were randomly selected for each age level in each ethnic group. For age groups 12-16 (inclusive), 120 children were selected in equal numbers from the three ethnic groups. Again, equal numbers of females and males and low and high SES students were randomly selected for each age level in each ethnic group. (Due to fluctuations in the availability of students in some age groups, certain cells contain an additional subject.)

Procedure

Eight interviewers were employed either part or full-time in the administration of the Texas Environmental Adaptation Measure to the parents of the children selected in the sample; however, all eight were not employed during the same period of the norming procedure. Educational level of the interviewers ranged from bachelors degree to post-graduate level, with the mode being a masters level education. Average interviewing experience was approximately two years. Six females (one Mexican-American, one Black, four Anglos) and two males (one Mexican-American and one Anglo) were employed.

Subjects were randomly assigned to the interviewers, with the exception of the low SES Mexican-American group. Parents of these children were interviewed by a bilingual examiner, using Spanish when appropriate.

Parents were contacted first by letter and then by telephone or in person, if necessary, to arrange an appointment for the interview. Interviews were held in the parent's home, except in a few instances in which the parent chose another location. The interviewer administered all sections of TEAM to the parent in a conversational manner, eliciting information and probing where appropriate. Information from the Socio-cultural History, Family Dynamics, and Personality Adjustment sections of TEAM was written on the interview form; responses from the Adaptive Behavior Assessment were recorded (0,1,2 or No opportunity) on a separate score sheet. Parent permission for the interview was obtained in writing, and confidentiality was maintained.

Responses on the first three sections of TEAM and scores from the Adaptive Behavior Assessment were coded for data analysis. Analysis of data from the Adaptive Behavior Assessment has been completed with the use of Statistical Package for the Social Sciences (SPSS) programs through the University of Texas at Austin Computation Center.

Results and Discussion

Preliminary Data Analysis

Mean raw scores for the Adaptive Behavior Assessment of TEAM were compared for the six ethnic - SES groups in the sample: high SES Anglos (Group 1), low SES Anglos (Group 2), high SES Blacks (Group 3), low SES Blacks (Group 4), high SES Mexican-Americans (Group 5), and low SES Mexican-Americans (Group 6). Means for each of the six groups were as follows: Group 1, 133.6; Group 2, 131.0; Group 3, 130.7; Group 4, 123.7;

Group 5, 127.0; and Group 6, 116.5. Highest possible score on the Adaptive Behavior Assessment was 204. Analysis of variance results were significant, $F(5) = 4.855$, $p < .001$.

Group by group comparison of means yielded the following results:

Group 1 scored significantly higher than Group 4, $t(137.5) = 2.43$, $p < .05$;
 Group 1 scored significantly higher than Group 6, $t(137.8) = 4.70$, $p < .001$;
 Group 2 scored significantly higher than Group 6, $t(133.4) = 3.78$, $p < .001$;
 Group 3 scored significantly higher than Group 6, $t(136.8) = 3.83$, $p < .001$;
 and Group 5 scored significantly higher than Group 6, $t(133.3) = 2.73$, $p < .05$.

No significant differences were found between Group 1 and Groups 2, 3, or 5; Group 2 and Groups 3, 4, or 5; Group 3 and Groups 4 or 5; and Group 4 and Groups 5 or 6.

Mean raw scores for the total sample (all ethnic - SES groups) for ages 5-11 ($N = 422$) are as follows: five-year-olds, 102.1; six-year-olds, 106.7; seven-year-olds, 119.8; eight-year-olds, 128.1; nine-year-olds, 140.3; ten-year-olds, 143.3; and eleven-year-olds, 149.8.

Significant differences for mean raw scores were found in four out of seven comparisons: six-year-olds scored significantly lower than seven-year-olds, $t(115.1) = -4.27$, $p < .001$; seven-year-olds scored significantly lower than eight-year-olds, $t(113.6) = -2.24$, $p < .05$; eight-year-olds scored significantly lower than nine-year-olds, $t(113.8) = -3.31$, $p < .01$; and ten-year-olds scored significantly lower than eleven-year-olds, $t(117.5) = -2.19$, $p < .05$.

Results of comparisons of age groups 12-16 are not yet completed; however, preliminary scrutiny of the data revealed means which increase by age

for all age groups except the thirteen-year-olds.

It is presumptuous at this point in the standardization of TEAM to discuss, at length, the meaning of these preliminary results. It does appear, however, that separate norms on the Adaptive Behavior Assessment will be needed for at least one ethnic - SES group--the low SES Mexican-American. These results parallel the results of the Corpus Christi norming of the ABIC (Gridley and Mastenbrook, 1977).

It also appears that, at least for ages 5-11, the Adaptive Behavior Assessment measures adaptive behaviors which increase in number and complexity as a child grows older. The fact that no significant differences were found between five and six-year-olds or nine and ten-year-olds may indicate the presence of developmental plateaus at these age levels. Scores also tend to increase by age at the upper age levels. These results support the viability of the norms which will be generated from the data.

Ongoing Data Analysis

Further analysis of the data has been undertaken at the present time. Completed comparisons by age and by sex, as well as the results of item and factor analysis will be available at a later date.

In addition to the norm tables which will be generated, further analysis will include data from the Sociocultural History, Family Dynamics, and Personality Adjustment sections of the Texas Environmental Adaptation Measure. This data will be analyzed using frequency distribution in order to establish empirical indices of factors such as over-protectiveness, lack of opportunity, etc. Correlation coefficients will also be used in order

to determine the relationship between various factors from these three sections and scores on the Adaptive Behavior Assessment of TEAM.

Inter-rater reliability among the eight interviewers will also be investigated.

USES OF THE INSTRUMENT

We have been pleased, thus far, not only with the preliminary results of the data analysis, but with the quality of the information we have obtained from the Texas Environmental Adaptation Measure. In the small number of special education cases in which we have been able to use it, TEAM provided not only the numerical adaptive behavior score required by law for the classification of children as mentally retarded, but also a definitive look at the environment to which the child must adapt.

TEAM has revealed aspects of the child's life--medical problems, emotional trauma, a disadvantaged or unique cultural environment, etc.--which are interfering with his/her academic functioning.

These attributes of TEAM point up its usefulness, not only in the determination of a child's eligibility for special education classes, but also in the preparation of individual educational plans.

Although TEAM, like any other psychometric instrument, is only as good as the practitioner who administers it, its ultimate value lies in what is done in the classroom with the information it provides.

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